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**C04B 41/87****B23P 15/28****C04B 35/58****C04B 41/89****C04B 41/90**(21)Application number : **62-251883**(71)Applicant : **MITSUBISHI METAL CORP**(22)Date of filing : **06.10.1987**(72)Inventor : **ISHII HITOSHI  
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NAKANO KOICHI****(54) SURFACE-COATED CUBIC BORON NITRIDE BASED MATERIAL SINTERED UNDER SUPERHIGH PRESSURE TO BE USED FOR CUTTING TOOL**

(57)Abstract:

PURPOSE: To obtain a cutting tool for cast iron or Fe-based sintered alloy capable of maintaining high cutting performance for a long time by covering a surface of a base body of a material to be sintered under superhigh pressure contg. cubic BN, aluminum oxide, carbide or nitride, etc., of Ti, Ta, W, and Ti boride.

CONSTITUTION: The title cutting tool is constituted of a CBN-based sintered material base body sintered under superhigh pressure consisting of (a) 1W20vol.% aluminum oxide, (b) 5W40vol.% at least one kind among compound carbides or carbonitrides of metal consisting of carbide of Ti, Ta, or W, nitrides of Ti or Ta, or  $\geq 2$  kinds of solid soln. thereof, (c) 0.5W5vol.% Ti boride, and (d) residual vol.% CBN and inevitable impurities, and a rigid layer having 0.5W10 $\mu$ m mean thickness consisting of TiN covering the surface of the base body. When a metallic Ti layer having 0.05W0.3 $\mu$ m mean thickness is interposed between said base body and said rigid layer in the stage of covering the base body with the rigid layer, the adhesion of the rigid layer to the surface of the base body is improved.

**LEGAL STATUS**

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